Statement of Work

Data Collector/Correlator (DCC)

Release 01
March 08, 2011

Revision History

No.	Date	Affected Sections	Description	Prepared by
1	3-7-11	All	Original Release	Duke Pham

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1.   General

1.1   Background and Introduction

The Federal Aviation Administration (FAA), Aviation Systems Standards (AVN) has a requirement under PR AC-11-04126 for a time and material type contract with Formation Inc., 121 Whittendate Drive, Moorestown, New Jersey, 08057, to provide engineering support and maintenance and repair of the Data Collector/Correlator (DCC).

The DCC, which will be installed on all FAA Flight Inspection aircraft, supports the modernization of the FAA's Automated Flight Inspection System (AFIS). This avionics equipment plays a critical role in keeping the National Airspace System safe for the flying public.

This requirement is estimated to require approximately 600 man-hours for the base year and 400 man-hours for four one-year option periods.

1.2   Point of Contact

Program Manager: Duke Pham, (405) 954-6696

Contracting Officer Technical Representative (COTR): Paul Pender, (405) 954-3955

1.3   Scope

The intent of this SOW is to define the requirements for contractor support services for the support, maintenance, and repair of the DCC hardware and software and related equipment. These services include, but are not limited to, the following:

a.   Provide maintenance/support for the DCC test station software and hardware

b.   Provide FAA access to contractor Ontime and Vault Databases

c.   Provide updates and support to FAA Ontime and Vault Databases

d.   Provide maintenance/support for DCC software development station software and hardware

e.   Provide DCC hardware maintenance and repair

f.   Provide technical support of DCC Software maintenance

g.   Provide DCC Documentation updates

h.   Other DCC support activities as required on an over and above basis.

Task Orders (TOs) will be issued to define the specific tasks/services to be performed, and the hours negotiated.

1.4   Contractor Personnel

1.4.1   The contractor shall provide a staff of administrative and technical employees and/or sub-contractors that possess the technical competence and experience to accomplish the tasks defined in this SOW and follow-on TOs.

1.4.2   The contractor shall provide all supervision and management necessary to monitor personnel performing work under this contract. Government employees shall not supervise contract personnel at any time.

1.4.3   The contractor shall ensure that their personnel observe and comply with all FAA/AVN policies, regulations, and procedures concerning security and safety. While on FAA premises, contractor personnel shall obtain and wear an appropriate FAA identification (ID) badge at all times in accordance with local FAA policies and directives.

1.4.4   Contract employees shall not disclose, orally or in writing, any information regarding material identified as confidential, proprietary, or advance procurement information to any other persons or firms other than designated FAA employees.

1.4.5   Labor Categories, Job Descriptions, and Qualifications

The following job categories, job descriptions, and qualifications will be used in the performance of this SOW. The categories and descriptions are provided as a basis for use in development of the cost estimate for the current maintenance and repair services required under this procurement.

Labor Categories used are as follows:

1.4.5.1   Engineering

Job Description: Analyzes and studies complex system requirements and prepares recommendations for change. Designs software tools and subsystems to support software reuse and domain analyses and manages their implementation. Manages software development and support using formal specifications, data flow diagrams, other accepted design techniques and Computer Aided Software Engineering (CASE) tools. Estimates software development costs and schedules. Performs software configuration management.

Job Qualifications: A Bachelor's degree in Engineering, Computer Science, Computer Engineering, or other related discipline. Position requires extensive knowledge in the design, manufacturing, and maintenance of the DCC.

1.4.5.2   Computer Applications Specialist

Job Description: Applies knowledge of automated data processing (ADP) functions, hardware and software systems operation, and computer programming languages and techniques, and software applications products to produce technical or management information products. Uses standard database, spreadsheet, or document-producing software applications programs on microcomputer, minicomputer, or mainframe

computer systems. Searches, queries, or compiles data, creating reports or other documents to meet user requirements. Writes and debugs flow charts, code, programs, or routines in fourth generation languages. Maintains and manages databases, files, and back-ups. Prepares software change requests and trouble reports. Prepares user manuals, advises, and/or trains users on new software system operations.

1.5   Work Locations

1.5.1   The work shall be performed primarily at the contractor's facilities. Some TOs may require travel or performance at FAA facilities.

1.5.2   Travel requirements will be defined and approved prior to the actual travel. All travel requests must be approved by the FAA Contracting Officer (CO). The method of travel, length of stay, number of people, and qualifications of contractor personnel required will be determined on a trip-by-trip basis. All travel associated costs shall be in accordance with United States Federal Travel Regulations. All travel related costs will be reimbursed to the contractor in accordance with these regulations and in accordance with the Contract document, Section H.

1.6   Principal Period of Performance

1.6.1   TOs performed under this contract shall normally be performed between the core hours of 08:00 to 17:00 local time at the location of performance, Monday through Friday, excluding holidays defined in 1.6.2.

1.6.2   Contract personnel will not be expected to perform on established Federal holidays or on days observed in lieu of the holiday (except in emergency situations). The following is a list of Federal holidays:

January 1, New Year's Day
Third Monday in January, Martin Luther King Day
Third Monday in February, President's Day
Last Monday in May, Memorial Day
July 4, Independence Day
First Monday in September, Labor Day
Second Monday in October, Columbus Day
November 11, Veteran's Day
Fourth Thursday in November, Thanksgiving Day
December 25, Christmas Day

1.7   Program Management

1.7.1   The contractor shall identify a Program Manager (PM) who shall have sufficient corporate authority to direct, execute, and control all elements of the program. These positions may not be subcontracted and must be a part of the Prime contractor's management team. The PM shall serve as the point of the contact for administrative and technical issues pertaining to the performance of this SOW and resulting TOs. PM responsibilities shall include planning,

organizing, directing, coordinating, controlling, approving, and documenting administrative and technical activities.

1.7.2   The PM shall be prepared, at all times, given reasonable notice, to present and discuss the current status of the contract and/or TOs with the FAA PM, COTR, or CO. The PM shall be designated by name in the contractor's proposal. Any proposed changes to this individual must be identified in advance to the FAA CO for verification of qualifications.

1.8   Configuration Management

1.8.1   The Contractor shall use their existing data management program to maintain contractually required documentation and correspondence associated with management, engineering, design, development, integrated logistics, materials, hardware, software, testing, technical and other support documentation; in one logical and inclusive system. This effort shall include documentation defined in individual TOs as required.

1.8.2   The Contractor shall submit revised documents with revision marks and shall include all changes to previous submissions. Revision marks shall be removed in the final delivery of documents unless otherwise stated.

1.8.3   When requested by the CO the Contractor shall make available for Government review, all internal documents related to work performed under this contract.

1.9   Logistics Management

1.9.1   The Contractor shall provide all manuals/documentation for the operation, maintenance, and training for all operational, test, and support equipment and software. Manuals/documentation shall include all configuration changes, modifications, directives, and bulletins to support the operation and maintenance of the system. The contractor shall provide copies of applicable specifications, exhibits, source data and drawings to support the manuals/documentation. Drawings shall be provided on electronic media when requested, and compatible with the FAA Computer Aided Engineering Graphics (CAEG) System.

1.9.2   As a minimum, the contractor shall supply manuals and documentation as required herein or as defined in more detail in individual TOs.

1.9.3   Printing of all text and illustrations shall be clear, sharp, and reproducible.

1.9.4   Manuals/documentation shall reflect the final configuration of the delivered item including all revisions and changes.

1.10   Hardware

1.10.1   The Contractor shall utilize commercial-off-the-shelf (COTS) hardware to meet the requirements of this SOW whenever possible. The Contractor shall request CO/COTR approval to use non-COTS item hardware, or to make a change in COTS item hardware. The Contractor may utilize existing commercial drawings and associated lists in lieu of developing production drawings and associated lists for an unmodified commercial item only

after the FAA has evaluated the Contractor's drawing package and engineering documentation practices, and determined that the data is satisfactory for the intended use.

1.10.2　The Contractor shall present all changes affecting COTS hardware to the CO/COTR for approval. After CO/COTR review and concurrence of the proposed changes, the Contractor shall incorporate the changes into the commercial drawings and associated lists.

1.10.3　The Contractor shall maintain commercial drawings and associated lists for all hardware and shall prepare product drawings and associated lists for all hardware and software developed under this contract.

1.10.4　The basic elements required for the commercial drawings and associated lists shall include:

1. Drawing Index by part number and drawing tree.

2. The drawing package shall include the following:

 A. Detail drawing of part and/or assembly.

 B. Performance data of part and/or assembly.

 C. Dimensions and tolerance data.

 D. Input and output parameters.

 E. Schematics (provide detail, not merely block diagram).

 F. Mechanical and electrical connections.

 G. Reference to next higher assembly.

 H. Test setup and equipment used to perform testing.

 I. Test data sheet, calibration information, and quality control information.

 J. Detail parts list for part and/or assembly identifying each part of the assembly.

 K. Original Equipment Manufacturer (OEM) information including name, part number, address, phone number, etc.

 L. Field Programmable Logic Array (FPLA), EPROM, PROM data, as applicable, including blank chip information, source code, and a master programmed device.

 M. Cable drawings with a complete part break down and wiring run list.

 N. Wiring list for wire wrapped printed circuit boards (to from list).

1.10.5　The basic elements required for the product drawings and associated lists shall include:

1. Drawing index by part number and drawing tree of LRUs.

2. The drawing package shall include the following:

 A. Detail drawing of part and/or assembly.

 B. Performance data of part and/or assembly.

 C. Dimensions and tolerance data.

    D. Input and output parameters.

    E. Schematics (provide detail, not merely block diagram).

    F. Mechanical and electrical connections.

    G. Reference to next higher assembly.

    H. (reserved).

    I. Details of materials used, form and finish.

    J. Test setup and equipment used to do testing.

    K. Test data sheet, calibration information, and quality control information.

    L. Camera ready artwork, or appropriate electronic file, for silkscreen, printed wiring boards, nameplates, etc.

    M. Drilling schedule for printed wiring boards or metal layout and drilling tapes.

    N. Detail parts list for part and/or assembly identifying each part of the assembly.

    O. Original Equipment Manufacturer (OEM) information including name, part number, address, phone number.

    P. Field Programmable Logic Array (FPLA), EPROM, PROM data as applicable, including blank chip information, source code, and a master programmed device.

    Q. Cable drawings with a complete part break down and wiring run list.

1.11 Software

1.11.1 The Contractor shall perform software planning, development, maintenance, documentation, testing, configuration management, and quality assurance for the DCC as required.

1.11.2 The Contractor shall implement a corrective action process for handling all problems detected in the products under configuration control. The corrective action process shall ensure that all detected problems are promptly reported, action is initiated on them, resolution is achieved, status is tracked and reported, and records of the problems are maintained for the period of the Contract.

1.12 Test and Evaluation Program

1.12.1 The Contractor shall conduct tests and generate test reports as required by TOs. The Contractor shall integrate test schedules as directed in TOs. The Government reserves the right to witness, on a non-interference basis, contractor testing at any time. Upon completion of each test or series of tests, the Contractor shall conduct a TIM to discuss test results with appropriate Government personnel.

1.12.2 The Contractor shall furnish equipment, space, and personnel required to perform the test and evaluation as required. The Contractor shall coordinate testing to be performed, and ensure there is a minimal redundancy of effort or data. The Contractor shall be responsible for the integration, control, and coordination of contractor and subcontractor testing, and supporting of Government testing. Contractor-proposed test tools, documentation, and test-support

hardware and software shall be approved by the FAA prior to the start of testing. The contractor shall provide facilities and equipment required for successful completion of required test.

1.13   Quality Performance

1.13.1   Quality Assurance: The COTR will monitor TO performance under this contract. Performance shall be considered acceptable when it meets requirements of the contract, SOW, TOs, and the contractors Quality Control Plan. When performance is unacceptable, the FAA CO/COTR and PM will meet with the Contractor PM to discuss how performance shall be returned to acceptable levels, and how recurrence shall be prevented. Other remedies for unsatisfactory performance will be governed by the CO and the FAA Acquisition Management System.

1.13.2   Quality Control: The contractor shall use their existing quality program to maintain a documented quality system as a means of assuring compliance with this SOW and resulting TOs. The Contractor shall require of sub tier suppliers a quality system achieving control of quality and supplies provided. All materials shall be inspected and tested to insure quality control. A copy of the contractor's Quality Control Plan may be required to be submitted with their proposal.

2.   Applicable Documents

The following specifications, handbooks, orders, standards, and drawings form a part of this SOW and are applicable to the extent specified herein. The latest version of these documents as of the contract date shall apply. In the event of conflict between this SOW and any of the applicable documents cited below, the provisions of this SOW shall apply.

2.1   Government Specifications

EO 05-E-02   Data Collector/Correlator, Revision level specified elsewhere

2.2   Government Standards

FAA Order 8110.49   *Software Approval Guidelines*, 6/3/03

FAA Job Aid   *Conducting Software Reviews Prior to Certification*, Rev.1, 1/16/04

2.3   Non-Government Documents

ARINC 652   *Guidance for Avionics Software Managements*, 1/15/93

RTCA DO-160   *Environmental Conditions and Test Procedures for Airborne Equipment*, Rev. D, Change 3, 12/5/02

RTCA DO-178   *Software Considerations in Airborne Systems and Equipment Certification*, Rev. B, 12/1/92

2.4   Sources of Documents

2.4.1   Government Standards

The Contractor shall be responsible for obtaining all Government Standards. The documents can be obtained from:

www.airweb.faa.gov/rgl

http://www.faa.gov/certification/aircraft/

2.4.2   RTCA Documents

The Contractor shall be responsible for obtaining all RTCA documents. RTCA documents can be obtained from:

RTCA, Inc.
1828 L Street, NW
Suite 805
Washington, DC 20036
Tel: 202-833-9339
Fax: 202-833-9434
http://www.rtca.org

2.4.3   ARINC Documents

The contractor shall be responsible for obtaining all ARINC documents. ARINC documents can be obtained from:

ARINC Incorporated
Document Section
2551 Riva Road
Annapolis, MD 21401-7465
410-266-4117
(M-F, 7am-5pm EST)
http://www.arinc.com

2.4.4   Other Documents

The Government will provide copies of all other documents as requested by the Contractor. Due to the length of some documents, distribution may be limited to only the pertinent portions of the document.

    a.   Requests for copies of documents not covered in the preceding paragraph should be addressed to the Contracting Officer. Requests should fully identify material desired and cite the solicitation or contract number.

b. Copies of the Acquisition Management System Test and Evaluation Process Guidelines are available in the Government Acquisition System Toolset (FAST). The on-line Internet address of FAST is: http://FAST.faa.gov

3. Definition of Terms

3.1 Contracting Officer (CO)

The person authorized on behalf of the Government to negotiate, award, administer and modify contracts. Except for certain limited authority delegated by the CO to a Contracting Officer's Technical Representative (COTR), the CO is the only individual with the authority to direct the work of the contractor.

3.2 Contracting Officer's Technical Representative (COTR)

An authorized Government representative(s) acting within the limits of their delegated authority as authorized by the CO, for representation and management of the contract.

3.3 Contractor

The term contractor, as used herein, refers to both the prime contractor and any subcontractors. The prime contractor shall be responsible for ensuring that subcontractors comply with provisions of the contract, SOW, and TOs.

3.4 Statement of Work (SOW)

A document that describes the essential and technical requirements for tasks to be performed and standards used to determine whether the requirements have been met.

3.5 Quality Assurance

Those actions taken by the Government to assure tasks meet the requirements of the SOW.

3.6 Quality Control

Those actions taken by a contractor to control the performance of tasks so that they meet the requirement of the SOW.

3.7 Task Order (TO)

An order for tasks issued by the Contracting Officer. Each TO will define billing information, delivery dates, delivery order number, and funding amount. The TO will also normally include a Task Performance Work Statement (TPWS) that will adequately define the task to be accomplished or provided and/or equipment/materials required.

4.   Government Furnished Property

4.1   The Government will, at its option, furnish materials and/or equipment that are available for utilization under this contract. (a list of all GFP needs to be provided at time of PR issuance to include part identification, quantity to be provided, when the property will be provided and a cost of replacement.)

4.2   The contractor shall have access to all flight inspection directives, manuals, policies, and regulations. Specific flight inspection aircraft and software/hardware technical data will also be made available to the contractor on an as needed basis.

5.   Contractor Furnished Property

5.1   The contractor may be required to purchase miscellaneous equipment and/or materials. Equipment and/or material requirements to be purchased by the contractor will be identified and/or approved by the CO as negotiated prior to or during TO performance.

5.2   The PM as defined in Section 1.4. shall be capable of receiving telephonic communications through an answering service or other continuous communication device, i.e. beeper, cell phone, etc. capable of providing prompt communications with the FAA PM, CO, and COTR.

6.   Required Tasks

The Contractor shall furnish the necessary personnel, facilities, equipment, materials, and other resources necessary to provide management, engineering, design, development, integrated logistics, materials, hardware, software, testing and technical support service for flight inspection system(s) as defined in this SOW and TOs. All such tasks and deliverables shall be supplied in conformance with the terms and conditions of the contract.